



Jet Propulsion Laboratory
California Institute of Technology

Plans for a “Meeting-in-Meeting” at AAS Meeting, Boston MA, June 2014

On the Shoulders of Giants: Planets Beyond the Reach of Kepler

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AFTA SDT Meeting, Washington DC, January 9-10, 2014

- 224th AAS Meeting in Boston, MA – June 1-5, 2014
- Scientific objectives:
 - Review the theoretical reasons why we need to study planets beyond 1 AU
 - Integrate what we learn from those interior to 1 AU
 - Review what we know now from current experiments, and what we still need to know
 - Look to the future to see what opportunities there are in the near and further future (including AFTA)
- Programmatic objectives:
 - Increase community awareness and support for the exoplanet science objectives of AFTA
 - Provide an opportunity for input to the AFTA science program, for the *Final Report* due in January 2015

- Stephen Unwin (JPL, Chair)
- David Spergel (Princeton)
- Neil Gehrels (NASA GSFC)
- Scott Gaudi (OSU)
- Jeremy Kasdin (Princeton)
- David Bennett (Notre Dame)
- Bruce Macintosh (LLNL)
- Tom Greene (NASA Ames)

On the Shoulders of Giants: Planets Beyond the Reach of Kepler



ExoPlanet Exploration Program

- Format: “Meeting-in-Meeting”

On the Shoulders of Giants: Planets Beyond the Reach of Kepler

- Four 90-minutes sessions
 - Morning and afternoon, Monday June 2
 - Morning and afternoon, Tuesday June 3
- Session titles:
 - I: *What we know today and what we would like to learn*
 - II: *Demographics*
 - III: *Ground-based Imaging and Spectroscopy*
 - IV: *The Near Future*

Meeting Description



ExoPlanet Exploration Program

What kind of planets lie at orbit radii of 1-2 AU - beyond the reach of Kepler? In the last two decades we have explored a sample of RV-detected planets, discovered distant planets with microlensing, and several hot young planets at large radii have been detected by direct imaging, as well as the debris disks that provide clues to formation and evolution. In these 4 sessions, we explore the near future, and how we can expect to learn much more about the demographics and properties of cold outer planets. AFTA-WFIRST will open up this area, with a microlensing survey to probe the population of long-orbit planets, and coronagraphy to take images and spectra of large planets in orbits at a few AU.

Session Descriptions

- **Session I** Introduction; current state of theoretical understanding of planets in long orbits - beyond the reach of Kepler
- **Session II** Demographics of the exoplanet population, based on what we know from RV surveys, Kepler, and microlensing
- **Session III** Direct observation of exoplanets with imaging and spectroscopy, and what we learn from debris-disks around planet-bearing stars
- **Session IV** What we can expect to learn about this planet population in the near future. In addition to TESS and JWST under development, we also discuss the contributions of AFTA-WFIRST through microlensing and spectroscopy.

Invited and Contributed Talks and Posters



ExoPlanet Exploration Program

- Each session will have
 - 2-3 invited talks
 - Contributed talks on the session topic,
 - Space permitting, selected by the SOC
 - Adding up to 90 minutes
- Poster session
 - We will gathering abstracts flagged by the authors for this meeting
 - Convert unscheduled oral talk requests into posters